



177569

217/782-6760

Refer to :L119040007 Madison County
Taracorp/NL Industries
Superfund/Technical Reports

December 13, 1991

Mr. Brad Bradley
Remedial Project Manager (5HS-11)
USEPA - Region 5
230 S. Dearborn
Chicago Illinois 60604

Dear Mr. Bradley:

The IEPA has finished the review of the Chemical Data Acquisition Plan (CDAP) for the NL/Taracorp Superfund Site Pre-design Field investigation. The CDAP contained three volumes: the CDAP (volume 1), the CDAP Appendices (volume 2), and the Health and Safety Plan (volume 3). The cover letter was dated October 29, 1991 and was received October 30, 1991 by IEPA/DLPC.

Listed below are the comments generated from that review, if you have any questions regarding these documents, please feel free to call me at 217/782-6760.

Sincerely,

T.E. Fitzgerald
T.E. Fitzgerald, Project Engineer
Federal Sites Management Unit
Remedial Project Management Section
Division of Land Pollution Control

Enclosure

cc: Division File
Kurt Niebergall, RPMS
Charlie Zeal, RCRA
Eric Minder, RCRA
Jeff Niemann, OCS
Connie Sullinger, OCS
Virginia Wood, CRS



DATE: November 27, 1991

TO: Jim Janssen

FROM: James O'Brien

By: J. Niemann

SUBJECT: Site Safety Plan Review

Ref.: NL/TARACORP
Granite City

SUMMARY

Essentially no action was taken to substantively address the problems stated in the previous comments submitted by the HSU. In our opinion, the Site Safety Plan is insufficient to adequately protect worker health.

SPECIFICS

Contractor Statement:

Serum lead levels will only be evaluated before the project begins and immediately after completion of the work.

Comment:

Since no serum lead samples will be taken during the project, workers could obtain a high body burden before any clinical symptoms would occur. Further, only the inhalation of lead has been addressed with no consideration to the ingestion of lead through poor decontamination procedures. Therefore, the advantage of preventing lead intoxication by requiring frequent serum lead levels is lost.

Contractor Statement:

One personal air sample will be collected for each work task during the first day of intrusive activities. If the sample is below detection limits, then no further sampling is required.

Comment:

The deposition of lead in the soil at this site varies considerably. One sample would hardly quantify all the activities for all of the site for the entire project. Further, in order to perform the recommended NIOSH or OSHA confidence level calculations, more than one sample is necessary.

Contractor Statement:

A level of 10 mg/M3 has been established for readily visible dust. A total dust of 0.52 mg/M3, based on the maximum concentration of lead in soil, has also been established as the ceiling level for total particulate. Based on one 5 minute exposure during the entire 8 hour work shift at a dust concentration of 10 mg/M3, it was determined that the resulting lead exposure would not exceed the OSHA PEL by a factor of 5.



DATE: December 5, 1991
TO: Tracy Fitzgerald, RPMS
FROM: Eric Minder, DLPC-Permits
SUBJECT: 1190400007 - Madison County
NL/Taracorp
ILD096731468
RCRA ARARs

The DLPC Permit Section has completed review of the October 1991 Chemical Data Acquisition Plan and Site Safety and Health Plan for the NL/Taracorp Superfund site, prepared by Woodward-Clyde Consultants on behalf of the US Army Corps of Engineers. The following is a list of concerns and comments compiled from this review.

1. Page I-1 of the Chemical Data Acquisition Plan (CDAP) states that the site Record of Decision (ROD) establishes the cleanup objectives for this site at 1000 ppm for industrial properties and 500 ppm for residential areas.

The CDAP does not indicate whether this cleanup objective is based upon total metals or TCLP extract. Should this objective be based upon total metals, it is not clear how excavated soils from remediation will be classified in order to determine if these materials are characteristically hazardous.

Additionally, page I-5 of the CDAP states that samples taken from the Taracorp pile and the drummed wastes located at the Taracorp pile were analyzed by EP Toxicity and were found to be characteristically hazardous due to lead and cadmium. However, no provisions were made in the CDAP to analyze these wastes in order to determine if excavated materials are characteristically hazardous due to cadmium concentrations. Therefore, the soil sampling and analytical plan should be expanded for areas of concern (i.e., Taracorp facility, residential areas, and remote fill locations) to include analysis for leachable chromium in order to properly characterize the waste materials.

2. Page I-5 states that no volatile compounds have been identified in either the soils or groundwater

investigations conducted at this site.

According to the April 24, 1990 approved closure plan for St. Louis Lead Recyclers, located on property noted to be included in what was formerly identified as Area 1 for this cleanup, the slag-matte waste pile on-site was sampled and analyzed for volatile organic compounds (see page 5 of the referenced document). Sample analytical results indicated that concentrations of the following parameters were detected in the samples collected:

Methoxychlor (pesticide)	Toluene
Heptachlor (pesticide)	Chloroform
Benzene	Trichloroethylene
Methylene Chloride	Tetrachloroethylene

These samples were analyzed by TCLP methods. The source of these contaminants was not followed up during the course of closure of this RCRA site.

The information obtained from this sampling event does not refute the contention that VOCs have not been found in the soils or groundwater at the Taracorp site. However, contamination by VOCs was detected at this site, and, as noted above, the source of this contamination has not been determined at this time. Therefore, it appears that further investigations at this site in order to determine if volatile organic compounds, and possibly pesticides, are parameters of concern, especially in the industrial area, appears to be warranted in order to properly characterize the wastes.

3. Page I-6 of the CDAP states that the chosen remediation method for this site calls for all contaminated material that is excavated from the industrial, residential, and remote areas to be either incorporated into the main Taracorp pile or removed to a RCRA compliant landfill. A bottom liner will be constructed under expanded portions of the Taracorp pile. The entire reconfigured Taracorp pile will then be covered with a RCRA compliant cap.

As noted on page I-5 of the CDAP, sampling and analyses conducted on the Taracorp waste pile indicate that this material is characteristically hazardous due to lead and cadmium content. By compliance with the ROD, which requires that a liner be constructed under expanded portions and a RCRA compliant cap be constructed over the

reconfigured pile, the intent of final disposition of the waste materials at this location, the reconfigured pile would be considered a RCRA hazardous waste landfill unit. Therefore, this unit would be subject to all applicable requirements pertaining to operation, maintenance, and monitoring for hazardous waste landfills as outlined in 35 IAC Subtitle G, including groundwater monitoring under Part 724 Subpart F. These requirements include minimum technical standards for design and construction of hazardous waste landfill liners and caps. (See a copy of the February 21, 1991 memo from Eric Minder to Steve Davis which discusses applicability and outlines liner requirements for hazardous wastes landfill expansions.)

All hazardous waste disposal units should be constructed in accordance with USEPA's technical resource documents, which include:

Construction Quality Assurance for Hazardous Waste Land Disposal Technical Guidance Document (EPA 530-SW-86-031)

Guide to Technical Resources for the Design of Land Disposal Facilities (EPA/625/6-88/018)

Seminar Publication: Requirements for Hazardous Waste Landfill Design, Construction of RCRA/CERCLA Final Covers (CER/90-50)

Technical Guidance Document: Final Covers on Hazardous Waste Landfills and Surface Impoundments (EPA/530-SW-89-047)

4. Page I-7 states that soils determined to be above cleanup objectives will be removed from both residential and industrial areas and disposed of at either the Taracorp pile or at a RCRA compliant landfill.

Since the alternative disposal method of a RCRA compliant landfill is specified, the material is evidently expected to be characteristically hazardous. Therefore, under the definitions of 35 IAC Part 809, a hazardous waste is considered a special waste. Additionally, if the determination is made that the wastes are non-hazardous, these wastes would be considered a special waste under 35 IAC Part 809 (see definition of a "Pollution Control Waste"). Therefore, these wastes are considered special wastes under the provisions of 35 IAC Subtitle G, and

must be handled accordingly. All materials which are excavated from a location off the Taracorp facility property (see definition of "facility" in 35 IAC 720.110) must be handled in accordance with the hazardous or special waste manifesting requirements, depending upon the final characterization of the wastes, of 35 IAC Part 722 or 35 IAC Part 809, respectively.

5. Page I-7 brings up the issue of a borrow pit evaluation in order to aid in the pre-design of the RCRA compliant cap. The location of the borrow pit has not been identified at this juncture of the plan.

The Agency expresses concern of the use of materials excavated from the industrial or residential areas which have high concentrations of total/leachable lead in the construction of either a RCRA compliant landfill liner or cap. Apparently, Woodward-Clyde proposes to use soils from the Taracorp facility as either liner or cap construction materials. These soils are potentially the soils with the highest lead contamination due to run-off from the Taracorp waste pile and particulate emissions from lead reclamation operations at the Taracorp and St. Louis Lead Recycler facilities. Should such a material be used in construction of a liner or cap, possible run-off from a cap, or leachate through a liner, may contain high levels of lead. Absence of control structures for run-off or leachate may further serve to contaminate environmental media (e.g., soils, surface waters, groundwater, etc.).

6. Page 2-1 of the CDAP states that one of the objectives for the site investigation is to evaluate the extent of groundwater contamination in the main industrial area property. However, no mention is made of the impact of disposed materials on the groundwater underlying the residential and remote fill areas.

A strict interpretation of 35 IAC 720.110 identifies the areas where Taracorp pile material was used as fill as hazardous waste landfills. Therefore, each of these areas, considered RCRA units, must have a complete groundwater monitoring system, in accordance with the applicable requirements of 35 IAC 724 Subpart F. Thus, groundwater monitoring in the residential areas and remote fill areas is warranted.

In addition, it is noted that Part 620 Groundwater

Quality of Subtitle F to Title 35 was published as final on November 25, 1991. Therefore, Part 620 must be considered under ARARs. Applicable sections are 620.240 and 620.250, Subpart C, groundwater quality standards of Sections 620.440 and 620.450, and Subpart E.

7. Page 2-4 of the CDAP provides a list of activities which will be conducted in accordance with the remediation plan in order to fulfill data quality needs. Four additional monitoring wells will be constructed at the Taracorp facility to supplement the groundwater monitoring system already in operation.

It is not clear from review of the CDAP if existing wells at this site, or the wells proposed for construction, are to be used in a groundwater monitoring system which will be used to comply with the groundwater monitoring requirements of a hazardous waste landfill under 35 IAC 724 Subpart F. Should this be the initial or future purpose of the existing and proposed wells, they must meet the applicable construction, maintenance, and monitoring requirements of the Agency's Monitoring Well Design Criteria (Agency Administrative Policy #11, Design and Installation of Groundwater Monitoring Wells in Aquifers (ASTM D-5092-90), and the RCRA Ground-Water Monitoring Technical Enforcement Guidance Document (OSWER-9950.1).

8. Page 4-7 of the CDAP states that at each proposed boring location, soil collected from each sampling depth interval will be homogenized prior to filling each sample jar.

Compositing of samples is not an acceptable method for determination of the hazardous characteristics of waste materials. Since analytical information included in the CDAP regarding prior sampling conducted at this site shows large variability in total lead concentrations in a small depth interval, homogenization of soil samples over a greater depth interval may not provide a representative account of contaminants present in the discrete depth intervals. Since it appears that the proposed soil sampling is the only method by which excavated soils will be characterized, such compositing of samples should not be allowed.

9. Page 4-8 of the CDAP states that the existing groundwater monitoring wells at the Taracorp site have detected heavy

metals at concentrations comparable to background. However, a review of the information contained in the CDAP does not provide a complete description of the characteristics of the hydrology of the Taracorp facility.

The CDAP states that the aquifer monitored is composed of sand and silt, is unconfined, and extends to a depth of at least 35 feet (assumed below ground surface). Groundwater is encountered at an average depth of 24 feet (again, assumed below ground surface).

The CDAP did not indicate which monitoring wells were defined as upgradient (or background), nor does information exist in the CDAP which indicates the depths of the screened portions of each of the existing monitoring wells on-site. (Page 4-8 notes that the deepest screened interval for the existing wells is 10 to 15 feet). Private and public usages of the aquifer were not noted.

It is apparent that a complete hydrogeologic survey of the facility has not been conducted. In order to assure compliance with the applicable hazardous waste landfill groundwater monitoring requirements, a complete hydrogeologic study must be conducted before installation of a 35 IAC 724 Subpart F compliant groundwater monitoring system. This hydrogeologic study must conform with the applicable requirements for a hydrogeologic site investigations as outlined in 35 IAC Part 811.315. Upon completion of the study, a groundwater monitoring system, in accordance with all applicable requirements of 35 IAC 724 Subpart F and all other applicable requirements, including a groundwater monitoring plan outlining methods and procedures for groundwater sample collection, handling, preservation, and laboratory analysis, must be designed and submitted to the Agency for review. Upon Agency approval, the groundwater monitoring system must be installed and operated in accordance with all applicable Agency procedures and 35 IAC Part 724 requirements.

Use of the existing groundwater monitoring system wells in the RCRA compliant system must be approved by the Agency. The acceptability of use of the existing system for RCRA hazardous waste disposal unit groundwater monitoring is dependent upon many factors. Information

regarding the acceptability of these wells (e.g., well construction, location, depth, etc.) must be provided if this issue is to be pursued.

10. Page 4-9 states that soil cuttings for monitoring wells and soil borings, and groundwater well development waters, will be disposed of at either the Taracorp or SLLR piles as detailed in Standard Operating Procedures (SOP) 2 and 6. Page 2-10 of SOP #2 states that, depending upon the well location, excess soil cuttings and drilling fluids will either be collected and placed in 55-gallon drums or disposed of directly upon the Taracorp or SLLR piles.

Since both the Taracorp and SLLR waste piles have been characterized and identified as hazardous waste management units, they are subject to the operational requirements of 35 IAC 725 Subpart L: Waste Piles. 35 IAC 725.353 prohibits wastes containing free liquids from being placed on a waste pile unless it is demonstrated that leachate or run-off from the pile will not be a hazardous waste. No demonstration either proving or refuting leachate or run-off from either of the piles would be considered hazardous has been provided to the Agency at this time. Therefore, such a demonstration must be provided before this proposed dumping occurs. If this issue is pursued, and it is determined that run-off or leachate is indeed hazardous, the piles must be brought into compliance with the containment requirements for waste piles as outlined in 35 IAC 725 Subpart L.

In any event it is not sound environmental practice to dispose of liquid wastes onto a waste pile which has no liquids confining liner beneath it. Potential surface water, soils, and groundwater contamination may occur if leachate and/or run-off from the unit contains hazardous constituents.

Since neither of the subject facilities (Taracorp or SLLR) have a RCRA Part B Permit for the subject waste pile units, it is hereby noted that it must be demonstrated that the remediation of waste piles (both the Taracorp and SLLR piles) meets the minimum RCRA interim status closure standards for waste piles, as outlined in 35 IAC 725 Subparts G and L.

Since the alternative disposal method of a RCRA

compliant landfill is specified, all waste cuttings, water from development of groundwater wells, and other material from this site investigation, including equipment decontamination rinsates, may be characteristically hazardous. Therefore, under the definitions of 35 IAC Part 809, a hazardous waste is considered a special waste. Additionally, if the determination is made that the wastes are non-hazardous, these wastes would be considered a special waste under 35 IAC Part 809 (see definition of a "Pollution Control Waste"). Therefore, these wastes are considered special wastes under the provisions of 35 IAC Subtitle G, and must be handled accordingly. All materials which are excavated from a location off the Taracorp facility property (see definition of "facility" in 35 IAC 720.110) must be handled in accordance with the hazardous or special waste manifesting requirements, depending upon the final characterization of the wastes, of 35 IAC Part 722 or 35 IAC Part 809, respectively.

11. It is unclear from the information provided in the CDAP if the soil samples analyzed by TCLP method are intended to characterize the soils for off-site waste disposal. (The term "off-site", as used in this context, refers to disposal of materials at a RCRA compliant landfill.) It does not appear that the amount of samples taken would constitute an acceptable determination of whether soils to be excavated are hazardous or non-hazardous. Should this be the intent of the sampling program, the program for waste characterization is deficient for the following reasons.
 - a. The samples are being composited. This is unacceptable to the Agency for the reasons outlined in Comment 9 above.
 - b. The samples are being taken from a discrete location. It appears that one TCLP sample will constitute a waste characterization for a large surface area and at least a one foot depth interval. This is not acceptable since the TCLP sample cannot be assured of being a representative sample. The sampling program as outlined in the CDAP does not assure that the sample will not be taken in an area where metals concentrations are anomalously different from those of surrounding soils.

Since it appears that there is some differentiation in

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total metals concentrations with depth, the procedures for a sampling program as outlined in Chapter Nine of the latest edition of SW-846 for stratified random sampling would be adequate for determination of the proper waste characterization for excavated materials. (The sampling program would be expanded under this outline to include more analyses for TCLP metals.)

cc: Division File
Division of Legal Counsel
Charlie Zeal - Permits
Jim Janssen - RPMS
Ken Liss - Permits
Kurt Neibergall - RPMS
Eric Minder - Permits



Attachment 1

DATE: February 21, 1991
TO: Stephen Davis, DLPC - RPMS
FROM: Eric Minder, DLPC-Permits
SUBJECT: 1190400007 - Madison County
Taracorp
ILD096731468

From review of the January, 1991, Administrative Order for Remedial Design and Remedial Action for the NL Industries/Taracorp site in Granite City, it appears that the remedial design/actions to take place include extending the existing Taracorp wastepile by addition of cleanup materials and debris. The remedial design apparently includes placing a clay liner under the extended portion of the wastepile, a RCRA cap for the entire waste pile, groundwater monitoring, and other institutional controls. By providing these institutional controls, such as a RCRA cap and groundwater monitoring, etc., it appears that these wastes will be left in place, thereby creating what is defined under RCRA as a landfill per 35 IAC 720.110. (See exemption from wastepile operating requirements under 724.350(b).) Therefore, this unit appears to be subject to the design requirements for landfills under 35 IAC 724 Subpart N.

In the administrative order referenced above, pages 20 and 21 list specific components of the remedial remedy selected. One of these components states that a RCRA-compliant multi-media cap will be constructed over the expanded Taracorp pile and a clay-liner will be constructed under all new portions of the expanded pile.

In accordance with the design requirements for landfills, 35 IAC 724.401(a) states that any landfills not covered by 724.401(c) must have a liner system for all portions of a landfill, except for the existing portions of such a landfill. (By review of the definition of "existing portion" under 35 IAC 720.110, the existing Taracorp wastepile would fall under the definition of "existing portion" of the designed landfill.) 35 IAC 724.401(c) outlines the requirements for, "... each new landfill, each new landfill unit, ... (and) each lateral expansion of an existing landfill unit", which would include the proposed extension design. The requirements for such a lateral expansion include installation of at least two liners and a leachate

The community relations plan should outline a method of developing a strategy for excavation of residential property. This kind of excavation is an invasion of citizens' personal space and can greatly effect their sense of well being as well as their daily routine. There are many questions that may be raised. For example, what will the people do while their yards are being excavated? Will they have free access to their houses? If they cannot leave or enter their houses after excavation begins, where will they eat? Will someone pay for their meals in restaurants while their houses are unavailable? Where will the children play? Can children go into their houses when they come home from school? What kinds of provisions will be made for their safety from the earth moving equipment? What provisions will be made for dogs and other animals kept in the yards? Residents will probably have additional questions and specific attention to developing an open communication system should be outlined beyond a general reference to meetings and notifications. This strategy should take into account the large number of citizens who personally will be affected by the remediation.

Many of the homes do not look tight. Will excavating the contaminated soil increase residents' exposure to lead because contamination will be spread to the interior of houses? Will the houses need to be cleaned? Is there going to be sampling to evaluate the effect of excavation on the interior of houses?

Will there be documentation of the condition of yards, sidewalks, etc. before excavation to help settle disagreements about damage contractors have done to residential property? Who will pay for damage such as cracked sidewalks, damaged shrubs and trees? Will shrubs and flowers have to be removed? Will there be a sign-off for this removal? Will they be replaced? Who will document what is okay to remove and what is not okay to remove? How many "availability sessions" will it take to handle the questions from each of the families that will have individual questions about their individual yards.

Appendix B

B. Virginia Wood is CRC not Keri Luly

Tracey Fitzgerald is project manager not Ken Miller

You might add Ken Mensing, Manager of the Collinsville Office of Land Pollution Control for the IEPA.

C. Honorable James Edgar and Sam Vadalabene (who is the state senator) are state officials not federal officials. Illinois State Representative Sam Wolf should be added. (There may be additional state legislators who should be

added. This can be checked by looking at a map of the state legislative districts). David Webb (Edwardsville Region of the Illinois Department of Public Health) and Dr. Thomas Long, Senior Toxicologist with the Illinois Department of Public Health should be added to the list of state officials.

D. The Madison County Board Chair should be added. I would order the officials by city. Craig Tarpoff is a Granite City alderman who has been appointed to a committee by the city to oversee the Taracorp project. You might check to see who else is on this committee. Does Venice have a mayors? If so, he or she should be included. You have two mayors living in Madison.

E. You have listed The Granite City Journal as the Granite City Press Record on page four. I think it is the Granite City Press-Record Journal.

Comments on the Chemical Data Acquisition Plan.

4.1.1 on Page 4-2. Do homeowners as well as residents have to give permission for the home survey?

4.1.2 on Page 4-2. I would not only notify the local public officials, but would also sit down with them and discuss the project and answer questions. The aldermen for the districts in which the survey will take place should be included in this discussion because they are often the officials to whom residents turn for answers and for complaints.

4.1.3 Some of the people may work shift work so would routinely be absent from their homes in the early evening or between 4:00 pm and 8:00 pm. If no response is obtained between these hours, I would suggest calling at other times during the day. (Standard Operating Procedure Number 11 does mention calling between 10:00 AM to 4:00 PM.)

How is access for soil samples and monitoring well locations going to be obtained.

4.2.3.3 Page 4-11 and 4.3.4 on page 4-14. If the truck must cross over sidewalks, lawns etc. to reach the boring or drilling location, I would recommend documentation of the condition of the sidewalk or lawn before and after work is conducted. Who will repair damage?

4.3.1 Page 4-13. The aldermen should also be included in the list of officials to be contacted



To: Tracey Fitzgerald

From: Virginia Wood

Date: December 9, 1991

Re: The following are comments by Greg Michaud and myself on the draft community relations plan for NL/Taracorp Superfund site.

Page 4, 3.1, first paragraph. I do not think Granite City was named after Granite City Steel. I have heard there was a manufacturer of either pottery or cookware called granite pottery or cookware and the city was named after this manufacturer.

Page 4, 3.1, second paragraph. The term "community activities" is unclear. Are these community relations activities connected with the site?

Page 4, 3.1 third paragraph. The Belleville-News Democrat is another major newspaper that covers the area.

Page 7. A major concern I have heard expressed from the Granite City mayor is that the decision to keep the lead pile at the site and increasing it substantially is totally unacceptable to the city because the pile will loom over the neighborhood, being an eternal marker and symbol of a contaminated city.

Page 7. Another major concern I have heard is a deep resistance to the idea of having the government dig up people's yards. It is important to realize the kind of invasion of privacy that this type of action represents to some people.

Page 8. On page 1, the statement is made that the plan covers remedial design and remedial action. There is no specific mention, however, of activities to be conducted in conjunction with the resident home survey or with excavation of yards. The Chemical Data Acquisition Plan states that Occusafe will perform the home interior inspections. I would think that this activity should be closely coordinated with USEPA community relations staff and should be discussed in the community relations plan.

How is access for soil sampling and monitoring well installation going to be obtained? How is access for excavation of yards going to be obtained? Access will have to be obtained from the owner and arrangements will have to be made with the renter. Who will do this?

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collection system in accordance with the requirements outlined further under 35 IAC 724.401(c).

Therefore, in order to meet the applicable requirements of RCRA, a single clay liner would not be considered adequate for the expansion of this unit. Rather, it appears that two synthetic liners and leachate collection systems meeting the applicable design requirements of 35 IAC 724 Subpart N should be installed for the proposed expanded portion of the NL Industries/Taracorp wastepile.

cc: Division File - RCRA Permit
Collinsville Region
Gary King
Jim Janssen
Larry Eastep
Charlie Zeal
Terry Ayers
Division of Legal Counsel

Standard Operation Procedure Number 11

Page 2-2. If residents have questions that surveyors cannot answer, the surveyor should write down the question and the name, address and phone number of the resident and give this information to the USEPA community relations coordinator who should followup on these questions.

cc: MaryAnn Croce LaFaire